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A Comparison of the Effects of Classroom Placement Status on the Self-Concept and Academic Achievement of Self-Contained and Mainstreamed Educable Mentally Retarded Students

Judson Leon Reese-Dukes

To the Graduate Council:

I am submitting herewith a dissertation written by Judson Leon Reese-Dukes entitled "A Comparison of the Effects of Classroom Placement Status on the Self-Concept and Academic Achievement of Self-Contained and Mainstreamed Educable Mentally Retarded Students." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Psychology and Guidance.

Donald J. Dickinson, Major Professor

We have read this dissertation and recommend its acceptance:

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

A COMPARISON OF THE EFFECTS OF CLASSROOM PLACEMENT STATUS ON THE SELF-CONCEPT AND ACADEMIC ACHIEVEMENT OF SELF-CONTAINED AND MAINSTREAMED EDUCABLE MENTALLY RETARDED STUDENTS

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Judson Leon Reese-Dukes

August 1981

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Graduate Studies and Research

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DEDICATION

I dedicate this accomplishment

to my parents

SFC (Ret.) Judson and Mary Dukes

ACKNOWLEDGEMENTS

Clearly it would be an endless task to formally acknowledge the assistance and support provided me in the accomplishment of this endeavor--never-the-less, I would certainly be remiss not to acknowledge special efforts undertaken on my behalf. I wish to personally thank Mr. Roy Johnson without whose assistance I would have had no data. I thank each member of my committee for their guidance and assistance, and especially Dr. Don Dickinson for all the special time and considerations he allowed me. I wish to offer a special note of gratitude to Dr. Sam Ingram, President, Dr. Jack Carlton, Vice President for Academic Affairs, Dr. Marlyne Kilbey, Chair of the Psychology Department and the entire Psychology Department faculty of Middle Tennessee State University. Without their confidence in me and their continuing support, none of this would have occurred. Finally, a loving thank you for the hints, reminders, prods and caring to my special friend and partner, Carolyn Reese-Dukes.

ABSTRACT

This study attempted to assess the effects of academic classroom assignment on the self-concepts and spelling and arithmetic achievement of EMR students.

Twenty-eight students were used representing two primary academic placement conditions, mainstreamed and self-contained. The mainstreamed group was further subdivided into those students entering special education (resource support) from a regular classroom and those entering from a self-contained classroom. It was generally hypothesized that those students in self-contained classrooms would report higher self-concepts as measured by the Piers-Harris Children's Self-Concept Scale, and spelling and arithmetic achievement, as measured by the Wide Range Achievement Test. Six specific hypotheses were generated. One was supported, the remaining 5 were rejected. The supported hypothesis revealed a significant positive relationship between self-concept and spelling achievement.

This study specificaly contributes to the existing body of literature in two ways. First, it offered an opportunity to assess the progress of EMR students being mainstreamed from special schools, and second, it offered an opporunity to investigate mainstreaming from two

different sources--special school (self-contained classroom) and regular classroom.

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CHAPTER I

INTRODUCTION

"Mainstreaming" academically handicapped students is mandated by federal legislation. As it relates to educable mentally retarded (EMR) students, the concept of mainstreaming is interpreted as the integration of those students into regular classrooms, and is intended to enhance their academic and social development (Bryan & Bryan, 1979).

Several assumptions underlie the inception of the mainstreaming concept (Brenton, 1974). First, it is assumed that the segregated or self-contained classroom is an isolating experience for EMR students, and that they will gain substantial social competencies when mainstreamed. While evidence has suggested the validity of that assumption for some handicapping conditions (Robinson & Robinson, 1965; Reese-Dukes & Stokes, 1978), such does not appear to be the case with EMR students. Placing children side by side does not guarantee that they will become friends, or even that they will interact. Ample research (Baldwin, 1958; Gottlieb & Budoff, 1973; Gottlieb & Davis, 1973; Iano, Heller, McGettigaan & Walker, 1974; Johnson & Kirk, 1950; Miller, 1966;

Reese-Dukes & Stokes, 1978) has clearly demonstrated that EMR students typically are isolated and rejected by their non-EMR peers when in regular classrooms.

A second assumption is that retarded students are better able to achieve, both academically and socially, when exposed to models whose achievement in those areas exceeds their own (Brenton, 1974). Regarding social development, Brunner (1972) has suggested that "play," for children, serves as a vehicle for teaching the nature of a society's conventions. Porter, Ramsey, Tremblay, Iaccobo and Crawley (1977), in an observational study of heterogeneously grouped retarded and nonretarded children, found reduced "rates" of play among the retarded students. Porter, et al., hypothesized a casual link between the low rates of play and the reduced social skills displayed by retarded individuals. Other research points to superior social adjustment of EMR students placed in self-contained classrooms. Their self-concepts appear more positive and they are rejected less strongly by non-EMR students than are those EMR students placed in regular classrooms (Goodman, Gottlieb & Harrison, 1972; Gottlieb & Budoff, 1973). Additionally, Blatt (1958), Drews (1967) and Porter and Milazzo (1958) have reported that EMR students educated in self-contained classrooms show greater emotional adjustment, peer acceptance and community adjustment when such variables are measured in terms of social

competence and economic efficiency among post-school populations.

Little research has been produced to either substantiate or repudiate the assumption of enhanced academic achievement among mainstreamed EMR students. Generally the evidence suggests that EMR students are unlikely to achieve the level of academic work or verbal skills that would be predicted from their mental ages in either a mainstreamed or self-contained setting (Meyer & Hieronymus, 1970; Quay, 1963; Stanton & Cassidy, 1964).

Purpose

Although research has focused on the many aspects of mainstreaming and its effects on EMR students, there remains little definitive information attesting to its effects on the academic achievement of EMR students. The present study proposes to investigate the relationship between self-concept, classroom placement and academic achievement among EMR students. It is generally hypothesized that elementary level (chronological ages 6 thru 13 years) EMR students placed in self-contained homogeneously grouped classrooms will report higher self-concepts and manifest higher academic (spelling and arithmetic) achievement than EMR students mainstreamed into regular heterogeneously grouped classes.

Specifically, the following hypotheses will be tested:

H_1: Among elementary EMR students, there is a relationship between self-concept and spelling achievement;

H_2: Among elementary EMR students, there is a relationship between self-concept and arithmetic achievement;

H_3: Among elementary EMR students, self-concept differs as a function of different academic placement status;

H_4: Among elementary EMR students, those placed in homogeneously grouped self-contained classrooms will report higher self-concept scores, as measured by the Piers-Harris Children's Self Concept Scale, than those students placed in heterogeneously grouped regular classrooms;

H_5: Among EMR students, spelling and arithmetic achievement will differ as a function of the students' current and previous academic placement status; and

H_6: Among EMR students, those who are mainstreamed will differ in spelling and arithmetic

achievement from those EMR students who are placed in homogeneously grouped self-contained classrooms.

Contribution

Although several studies of this nature have been attempted, the present study affords a heretofore unobtained contribution primarily in four areas. First, this study focuses on the class placement and academic achievement of EMR students, whereas, previous studies have primarily emphasized the social adjustment of those students (Dunn, 1963; Robinson & Robinson, 1965). While the importance of social adjustment is not denied, academic accomplishment seems a far more important success criterion for EMR students. Second, this study uses only EMR students as subjects. Previous studies have attempted to investigate EMR self-concept and academic achievement by comparing EMR populations to nonEMR populations. Third, due to policy, procedural and administrative changes which occurred in the school district from which the subject population was drawn, several EMR students were reassigned from self-contained classrooms to a mainstreamed or regular class environment. This change of placement status presented a unique opportunity for naturalistic as well as quantitative investigation of students of similar functional capacities who are functioning under different academic environmental conditions; i.e. homogeneously grouped

and heterogeneously grouped. Fourth, self-concept is included in the design of this study, not as an independent variable, but rather as a dependent variable of interest as affected by academic class placement.

Definition of Terms

Academically Handicapped Students -- Any student whose educational needs cannot adequately be served in a regular, heterogeneously grouped classroom. (Tennessee State Board of Education, 1979)

Educable Mentally Retarded (EMR) -- A child who is determined by a certified school psychologist to have a continuing handicap in intellectual functioning which significantly impairs the ability to think and/or act and the ability to relate to and cope with the environment, and whose level of intellectual functioning is one-half to three-fourths the normal rate (Tennessee State Board of Education, 1979).

Mainstreaming -- The practice of integrating EMR students into heterogeneous grouped regular classrooms for a certain portion of the school's day or for certain portions of the academic curriculum.

Mentally Retarded (MR) -- A child who has or develops a continuing handicap in intellectual functioning which significantly impairs the ability to think and/or act and

the ability to relate to and cope with the environment. (Tennessee State Board of Education, 1979)

Self-contained Class(room) -- A homogeneously grouped classroom containing only academically handicapped students.

Regular Class(room) -- A heterogeneously grouped classroom containing normally developing students and academically handicapped students.

Resource Support -- Special educational services provided for academically handicapped students during part of the school day.

Self-concept -- The set of ideas one has about oneself concerning one's abilities, potential and degree of control over those environmental factors which affect ones' life, as assessed by the Intellectual and School Status and Physical Appearance and Attributes subtests of the Piers-Harris Children's Self-Concept Scale.

CHAPTER II

REVIEW OF LITERATURE

Four distinct areas of research investigation provide historical background for this study. They are: 1) studies pertaining to the self-concept of MR students; 2) studies which have asessed the effects of class placement on MR students; 3) the relatively large body of literature, generally referred to as "efficacy" studies, which have attempted to compare the academic achievement of EMR students in self-contained and regular class placements; and 4) those studies which have specifically investigated resource room support for EMR students.

Self-Concept of MR Students

Some studies have suggested that the mentally retarded have unrealistic self-concepts. For example, Ringness (1961), in a study comparing the self-concept of special class (EMR) students to those of regular class (non-EMR) students, found that high IQ children in regular classes expressed the highest self-concepts. They spoke more positively about their achievement potential and their present academic skills. Low intelligence children in special classes expressed the second highest self-concepts while EMR students in regular classes expressed the lowest self-concepts. Ringness additionally noted

that variations between the estimated academic ability level and actual ability level was greatest among the regular class (EMR) students. Ringness explained that retarded children tend to be over confident rather than under confident in estimating their academic ability and potential.

Two other explanations might possibly be rendered for Ringness' findings. First, Edgerton (1967), in attempting to explain similar findings, hypothesized that higher functioning retarded persons (those who would be categorized EMR) often assume a "cloak of competence" in order to appear more like the general population. A second possible explanation is found in Festinger's Social Comparison Theory (1954). Festinger suggests that individuals base their self-concepts on comparisons of themselves to similar others within their referent environments. In this regard, the average ability students in the heterogeneously populated class had high IQ students as part of their referent environment, which created discrepant comparisons. The homogeneously grouped special class students were more similar in functional ability levels, therefore, the absence of discrepant comparison sources may have served to enhance the self-concepts of the special class students.

Curtis (1965) found no difference between the self-concepts of groups of EMR students and non-EMR students, of both average and high ability, who were the same mental ages. Fine and Caldwell (1967) also reported that elementary special class EMR students rate themselves as average or above average in self-concept when compared to both special school students and regular class students.

Holland (1971) conducted an experiment in which one hundred and fifty EMR students were randomly assigned to three treatment conditions, special school, special class and regular class. Using a test/re-test design to measure changes in congruence (movement toward or away from) between the measured self-concept and the reported ideal self-concept of the students in each condition, Holland reported among his findings that EMR students in special classes (self-contained) showed greater change toward congruence of their measured self-concept and their reported ideal self-concept, and they manifested greater academic achievement than special school or regular class EMR students.

Not all studies have found the mentally retarded's self-concept scores to be higher than or similar to other groups. Piers and Harris (1964), when comparing the responses of 88 institutionalized female retardates to those of public school children in grades 3, 6, & 10,

found that retardates had lower self-concepts than any other group. Similarly, Perron (1964) found that estimates of probable success of 63 retarded boys on seven games were significantly lower than the estimates of 194 normal children. However, in light of Guthrie, Butler and Gorlow's (1963) findings that institutionalized retardates generally have lower self-concepts than noninstitutionalized retardates, the validity of these studies seem questionable. Additional questions should be raised due to the differences in the age range of the sample population utilized. The Piers and Harris study compared an institutionalized mentally retarded population with a mean age of 16 years, eight months to non-retarded public school children in grades 3, 6, & 10 (approximately 9, 12, and 16 years of age). Perron used a sample of retarded boys with an age range of 15 through 16 years while the age range of the nonretarded sample was only 6 through 14 years.

Effects of Class Placement on MR Students

Research comparing EMR students placed in self-contained classrooms to EMR students placed in regular classrooms has produced conflicting results regarding self-concept and academic achievement. In a study of ninth grade students, Drews (1962) found homogeneously grouped low ability students responded more positively to the Ability Self-Concept Rating and the Concept of Self as

a Learner Scale than did similar students grouped heterogeneously. A study of grouping procedures by Goldberg, Passow and Justman (1961) partially confirmed Drews' results. When students were categorized by five ability levels and assigned to classrooms so that the proportion of students from each ability level varied in each classroom, it was found that the lowest ability students made the highest self evaluations when in classrooms composed only of low ability students.

Contrary to the above, a study of low ability students (Mann, 1962) revealed that students placed in low ability groups made more negative responses than any other groups to the questions: "Which fifth grade are you in?" and "Tell me how you happen to be in this particular fifth grade rather than some other group?" Borg (1966) questioned whether Mann's data were valid indices of self-concept. Nevertheless, his own data indicated that homogeneous grouping of low ability students had negative effects on their self-concepts. Analysis of responses to the Bills Index of Adjustment and Values administered to students in comparable school districts, one homogeneously grouped and the other not, showed that in general low ability students in homogeneous groups had lower self-concepts than did those in heterogeneous groups. In a study of mentally retarded students randomly assigned to self-contained and regular classes on entering the first

grade, Meyerowitz (1962) found no difference in self-concept between self-contained "slow learners" and regular class "slow learners."

Two studies have investigated the effect of self-contained class placement on EMR students' general self-concept of academic ability (GSCA). The GSCA is defined as the symbolic behavior of comparing one's ability to achieve in academic tasks to the ability of others engaged in the same tasks (Towne & Joiner, 1966). Towne and Joiner (1966) studied 62 EMR students using a time series design extended from a time prior to placement in self-contained classrooms to the end of the first year in the class. It was found that instead of the expected concave up-curve in GSCA, scores exhibited a steady rising trend through March with a slight fall-off at the year's end. In a follow-up study (Shurr & Brookover, 1967) with 51 of the original subjects plus 14 newly placed students, an ascending linear trend in GSCA was again noted over the 18 months of the study. Additionally, when the subjects were reassigned to regular classes it was found that their GSCA scores showed a descending trend over the first year. Shurr and Brookover concluded that change (increase) in the GSCA of self-contained EMR students is a product of comparisons with their self-contained class peers.

More recently, Strang, Smith and Rogers (1978), also investigating the effects of group comparisons on the self-concepts of EMR students, conducted two exeriments in which the placement conditions of the students were manipulated. Strang et al. intended to test the relevancy of Social Comparison Theory (Festinger, 1954) and Multiple Reference Group Theory as proposed by Hyman and Singer (1971) and Rosenberg (1968) to fluctuations in the self-concept of EMR students.

Social Comparison Theory (Festinger, 1954) differs from Multiple Reference Group Theory (Hyman & Singer, 1971; Rosenberg, 1968) primarily in that Social Comparison Theory attempts to explain the process of positive or negative self-concept development as a function of a process of comparison of some relevant skill(s) or trait(s), to similar skill(s) or trait(s) in others of the individual's referent environment. Multiple Reference Group Theory extends the basic premises of Social Comparison Theory and asserts that the comparison process undertaken by the individual is a function of relevancy. That is, when confronted with multiple "referent" groups which can serve as the basis of the comparision process, ego maintenance demands that the individual select as the focal point of the comparative process that group which is more similar to him or herself in the relevant skill(s) or trait(s) of comparison.

The Strang et al. experiment consisted of randomly assigning 50 EMR students to one of four experimental classrooms (two self-contained, 1/2 day classrooms and two mainstreamed, 1/2 day classrooms) or one of four control classrooms (all self-contained full day). Results indicated significant augmentation of the self-concepts of those students mainstreamed for half the school day. The authors stated that the observed result could not entirely be attributed to Social Comparison Theory and Multiple Reference Group Theory. Those students mainstreamed may have viewed the experience as a significant achievement, thus the noted self-concept changes may have resulted from enhanced feelings about their ability to perform rather than a reflection of multiple reference group utilization.

A second experiment was designed to clarify the issue. In this experiment twenty subjects (all mainstreamed) were used. Subjects were randomly assigned to either an experimental or control condition. Those children assigned to the experimental condition ". . . received manipulation designed to enhance the saliency of their membership in the regular classroom into which they had been mainstreamed . . ." (Strang et al., 1978, p. 494). This was accomplished by requesting those students in the experimental group to think only of their participation and membership in their regular classroom as they completed the assigned tasks. Those students who

were restricted in their choice or reference groups (experimental condition) exhibited decreased self-concept while those students with unrestricted reference group choice manifested increased self-concept. The authors concluded that the collective results of the experiments supported Social Comparison Theory (Festinger, 1954) and Multiple Reference Group Theory (Hyman & Singer, 1971).

While evidence has accumulated that in normally developing populations a high positive relationship exists between self-concept and learning (Bledsoe & Garrison, 1962; Bodwin, 1960; Chickering, 1958; Lumpkin, 1959; McMillan, 1965), a question remains whether this relationship is maintained with the mentally retarded. Four studies, two correlational and two experimental, provide some clarification. Snyder, Jefferson, and Strauss (1965) studied two groups of EMR students who had equal IQ's but different reading ability levels. It was found that a statistically significant positive relationship existed between self-concept and reading achievement. The better readers had higher self-concept scores than did poorer readers. Later, in a similar study with a larger sample, Snyder (1966) again found significantly higher self-concept scores among high achievers when compared to self-concept scores of low achieving groups.

Even though results like those cited above are helpful, correlational studies leave unanswered the question of whether self-concept antecedes achievement or whether it is partially a consequence of achievement. Two studies based on experimental paradigms support the antecedent position. Hardy (1967) placed fifty-six EMR students in high or low self-concept groups that did not differ in IQ or CA. The subjects were given paired associate learning tasks that were scored according to the number of errors made in mastering the list of paired associates. Subjects with high self-concepts needed fewer trials and made fewer errors in mastering the list.

A similar study was conducted by Wink (1973). Wink placed seventy-two institutionalized mentally retarded females in either high or low self-concept groups, then subdivided the groups into three treatment conditions consisting of a learning task with positive reinforcement, a learning task with negative reinforcement and a learning task with both positive and negative reinforcement. The high self-concept group performed significantly better than the low self-concept group under all treatment conditions.

Efficacy and Placement Studies

Studies that have compared the academic performance of EMR students in self-contained (often referred to as segregated) and mainstreamed (integrated) class placements have appeared in the literature periodically for nearly 50 years. Excellent reviews of the studies and their limitations have been presented by Kirk (1964) and Guskin and Spicker (1968), thus only a brief survey of the "efficacy" studies, as they have come to be known, will be presented here.

In a review of ten efficacy studies, five indicated EMR students' academic achievement was superior in regular classes (Bennett, 1932; Elenbogen, 1957; Mullen and Atkin, 1961; Pertsch, 1936; Cassidy and Stanton, 1959), and five studies reported no significant differences between the academic achievement of retarded children in self-contained special classes and regular classes (Blatt, 1958; Ainsworth, 1959; Goldstein, Moss and Jordan, 1965; Thurstone, 1959; Wrightstone, Forlano, Lepkowski, Sontag and Edelstein, 1959). Not one of these studies indicated that EMR students who attended self-contained classes achieved more than retarded children who remained in regular classes. As a result, many professionals began to question the usefulness of self-contained classes; not only were they unable to improve the academic achievement

of EMR pupils, they were also believed to stigmatize children who were enrolled in them (Dunn, 1968).

From the perspective of academic achievement, Kirk (1964) presented evidence of serious methodological flaws in all these studies. Subjects were not randomly assigned to groups. Instead most investigators identified children who were already enrolled in self-contained classes and then attempted to locate a control group matched on a number of relevant variables. Only Goldstein et al. (1965) randomly assigned students to self-contained and regular classes, thus avoiding the subject selection bias inherent in all the other studies.

Examination of the achievement data obtained by Goldstein et al. (1965) revealed highly reliable differences between the two groups at the conclusion of the first year, favoring the regular class EMR students. However, the achievement differences disappeared by the end of the third year. Goldstein et al. surmised that the initial differences in achievement between the two groups had been erased by the educational program provided in the self-contained special class. Although the Goldstein et al. study is probably the only one of the efficacy studies sufficiently devoid of methodological flaws to draw valid conclusions from, those data alone did not provide convincing evidence for the superiority of self-contained special classes.

It was from this perspective of empirical research, which failed to support the desirability of special classes, that the movement toward mainstreaming gained momentum. However, the recurring finding that EMR children in regular classes were not performing significantly better than those in special classes generated the impetus to create different alternative instructional systems for EMR students. Resource programs were designed with this in mind. The intention of the resource program was to provide EMR students with additional academic support that they would not normally receive in the regular classroom.

In one of the first studies designed to assess the effectiveness of resource room support to improve the academic achievement of EMR students, Rodee (1971) compared three groups of children who were similar in chronological age ($\bar{x}$ = 110 months) and IQ ($\bar{x}$ = 73.9); a resource teacher group (n = 36) that attended regular classes and received additional academic support in a resource room; a regular class control group (n = 16) that did not receive any additional instruction; and a special class control group (n = 40). Metropolitan Achievement Tests (MAT) were administered on a pretest/posttest basis to all the students during the 1969-1970 school year. Analysis of the data using pretest/posttest differences on standard score data yielded only one significant difference among

the three groups. Children in the resource program scored higher than the special-class group on the reading subtest of the MAT. None of the other subtests revealed significant differences. Of special interest was that the resource instruction did not result in improved reading scores when compared with the scores for EMR students in regular classes with no resource support.

Walker (1976) compared a resource room model with a traditional special-class program on academic achievement and other variables. All children in the study were identified as EMR prior to the study. Walker compared 29 experimental group children who received supplemental instruction in a resource room for 45-60 minutes each day, with the achievement of a control group of children who remained in special classes. The Stanford Achievement Test (SAT) was administered to all students before the resource program began, and again at the end of the second year of the program. Analysis of variance on the pretest/posttest gain scores revealed that the experimental group had significantly higher mean gain scores on the vocabulary and word reading subtests of the SAT than the control group, but that no significant differences in arithmetic occurred.

In another investigation in which special classes were disbanded and some children returned to regular

classes with resource assistance, Budoff and Gottlieb (1976) randomly assigned 31 EMR students to experimental and control groups. The former group consisted of 17 students who received supplemental academic instruction in an academically oriented resource room for 45 to 60 minutes each day for an entire school year. The control group was comprised of 14 EMR students who continued their special-class placement. Results of the analysis of covariance on the standard scores attained on the last two test sessions, with scores on the first test administration covaried, revealed no statistically significant differences between the groups in either reading or arithmetic achievement at either point in time.

These three studies, when examined collectively, fail to indicate that special classes, rather than mainstreamed classes, result in superior academic growth for EMR children. On the contrary, the data generally indicates that when significant differences occur, they invariably favor the mainstreamed educational program. However, as with the earlier discussed efficacy studies, methodological flaws cast shadows on the clarity of this consistency. In the studies discussed, neither Rodee (1971) nor Walker (1976) had adequate designs to rule out the possibility that differences between the experimental groups and control groups were not the result of initial subject-related factors rather than differences in the effectiveness

of the respective treatments. Only Budoff and Gottlieb (1976) had such a design, and (as was the case with the efficacy studies) when an adequate design was employed, no differences in academic achievement were found between self-contained (special) classrooms and mainstreamed (regular) classrooms for EMR students.

The studies cited and reviewed result in an equivocal situation, with no clear evidence as to which academic placement condition is most appropriate for EMR students. Additionally, among the major lines of research reviewed, two considerations seem conspicuously absent. First, among the efficacy and placement studies the major emphasis seems always to be on comparisons between self-contained classroom EMR students and regular classroom EMR students. No attention is given to the achievement of the regular classroom EMR students who came to be mainstreamed via different routes, i.e. students identified, certified and placed in special educaton with resource support from a regular class status, versus EMR students being mainstreamed (with resource support) from self-contained or special classrooms. Another concern which seems conspicuously absent is that of self-concept as a factor in the efficacy and placement studies. Only those studies which specifically focused on self-concept as the variable of interest between EMR and non-EMR populations considered it as a factor.

The present study, though similar in many respects to some of those reviewed, deviates significantly in three respects: 1) the origin of the EMR student's placement status is considered a factor; 2) self-concept, relative to placement status, is considered a factor; and 3) the self-contained or special classes represented in this study occur in a special school where all classes are self-contained.

CHAPTER III

METHODOLOGY AND DESIGN

This study investigates the effect of classroom placement on the self-concept and academic achievement of EMR students. It was generally hypothesized that elementary level EMR students placed in self-contained homogeneously grouped classes would report higher self-concepts and manifest higher rates of spelling and arithmetic achievement than EMR students mainstreamed into heterogeneously grouped regular classes. Specifically, the following hypotheses were tested:

H_1: Among elementary EMR students, there is a relationship between self-concept and spelling achievement;

H_2: Among elementary EMR students, there is a relationship between self-concept and arithmetic achievement;

H_3: Among elementary EMR students, self-concept differs as a function of the student's academic placement status;

H_4: Among elementary EMR students, those placed in homogeneously grouped self-contained classrooms

will report higher self-concept scores, as measured by the Piers-Harris Children's Self-Concept Scale, than those students placed in heterogeneously grouped regular classrooms;

H_5 Among EMR students, spelling and arithmetic achievement will differ as a function of the students' current and previous academic placement status; and

H_6: Among EMR students, those who are mainstreamed will differ in spelling and arithmetic achievement from those EMR students who are placed in homogeneously grouped self-contained classrooms.

Sample

Subjects consisted of 20 male and 8 female elementary EMR students in a rural, low socio-economic school district, located in a primarily coal mining region of upper East Tennessee. Subjects ranged in age from 8 years 9 months to 12 years 8 months. All subjects had previously been certified Educable Mentally Retarded (EMR) by a Certified School Psychologist or a Licensed Psychological Examiner in accordance with the guidelines and procedures established by the Tennessee Code Annotated.

Subjects represented two academic placement conditions, mainstreamed and self-contained. Students who are mainstreamed leave their regular classroom and attend a resource room for additional academic instruction in reading and arithmetic one period lasting 50-60 minutes each day. Resource instruction is provided by teacher's who are specifically trained and certified to teach academically handicapped students. Resource class sizes varied from 5 to 9 students at any given time. Mainstreamed EMR students remain with the regular class for all other activities of the school day. Curriculum activities for mainstreamed students, while in the resource room, paralleled those of the regular class students, except that the instructional techniques and materials are geared toward the specific needs of the individual EMR student as specified by the Individual Educational Plan developed for that student.

The self-contained group consisted of EMR students who were homogeneously grouped in self-contained classrooms within a special school. These students remained with the same teacher for the duration of the school day, with the exception of a 45 minute recess and lunch period.

For purposes of this study, the mainstreamed group was further divided to form two groups of students (see Figure 1), those who had entered special education from a

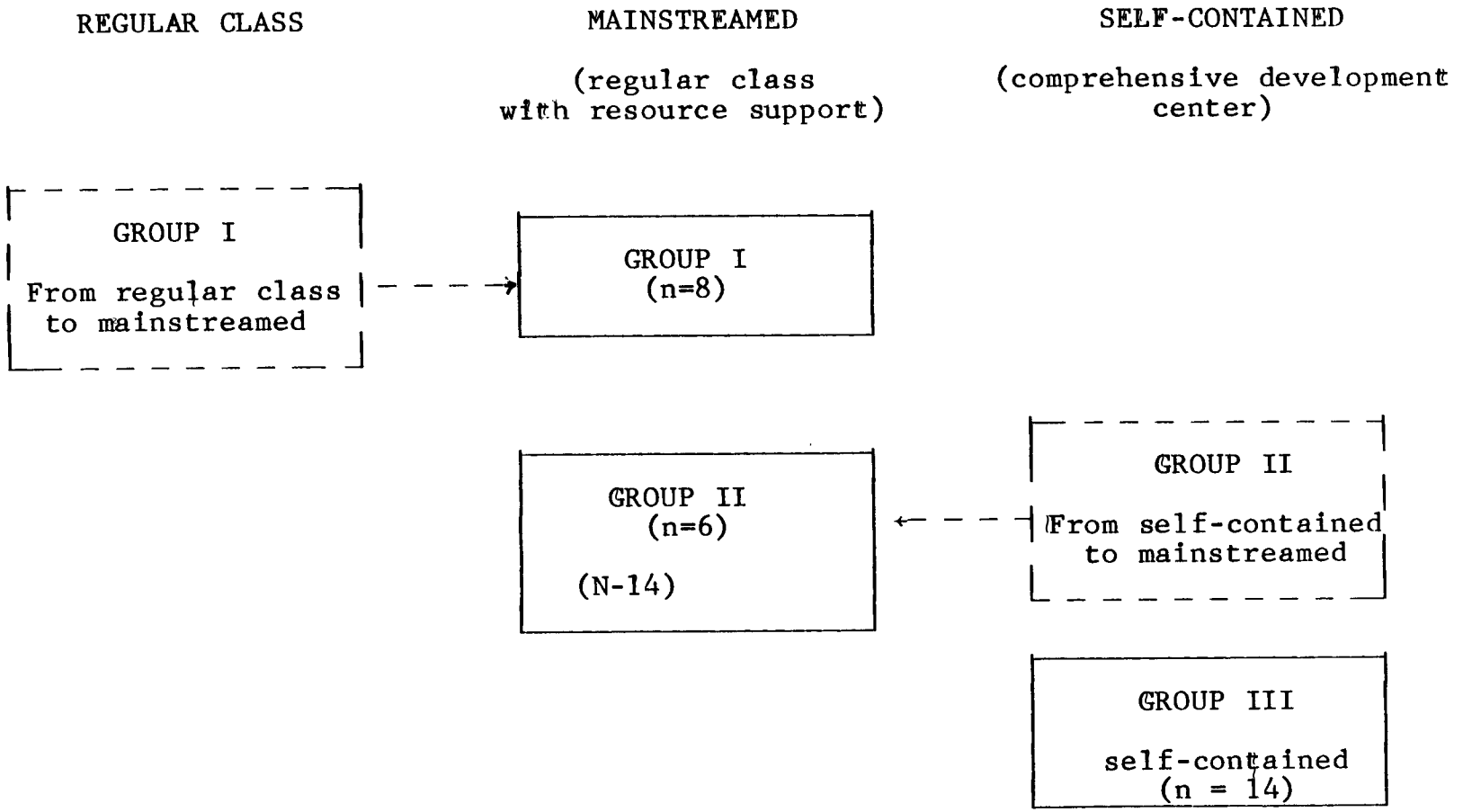

FIGURE 1: Subject distribution diagram

regular classroom assignment and those who had entered from a self-contained class assignment. In summary, Group I (n=8) consisted of students who had been evaluated and certified EMR in the previous school year and who had begun special education at the beginning of the current school year (mainstreamed from regular classes). Group II (n=6) was composed of EMR students who had previously been placed in homogeneously grouped self-contained classrooms in a comprehensive development center (CDC), but who had been reintegrated (mainstreamed) into heterogeneously grouped regular classrooms at the beginning of the current school year (mainstreamed from self-contained classes). Finally Group III (n=14) was composed of EMR students, judged comparable to those in Groups I and II, but who remained in homogeneously grouped self-contained classrooms within the comprehensive development center (self-contained).

The subjects in each academic placement condition were selected in a screening procedure conducted in November 1980. For Group I, each elementary special education teacher was asked to return a list to the Director of Special Education consisting of all students they served who were between the ages of 8 years 6 months and 13 years, certified EMR and who had, to their knowledge, not previously received special education services. Upon

receipt of the teachers' lists, each student whose name appeared was checked against Central Office records to ensure satisfaction of the selection criteria. Upon completion of this selection process 8 subjects, representing 3 different schools and 5 different teachers, remained in Group I. The subject population of Group II was fixed by the mainstreaming process. Fifteen students were reintegrated from self-contained classrooms in a comprehensive development center (CDC) into regular classes within the system at the beginning of the school year. Eight of the 15 students satisfied the age criterion, however, 2 students moved away from the system prior to the commencement of this study, leaving a total of 6 students, representing 3 schools and 3 teachers, as the population of Group II. The selection process for Group III was somewhat different. The Staff Social Worker, Psychologist, classroom teachers and the Director of the comprehensive development center (CDC) were asked to provide a list of students whom in their best judgement were functioning at the same cognitive, social and academic level as those students who were mainstreamed at the beginning of the school year. This process generated a list of 19 students. Five students were eliminated due to age, thus leaving a population of 14 students representing 6 different teachers.

The students thus selected at the CDC resembled (in the opinion of the CDC staff), in large part, the group of students who had been mainstreamed at the beginning of the school year, and represented those who would be mainstreamed at the beginning of the following academic year. It had been the administrative decision of the CDC and the local school system not to mainstream all students from the CDC whom the CDC staff felt cognitively and socially capable of adapting all at once, but, rather to phase them in over a three year period.

Following the sample selection process, a letter soliciting parental or guardian permission (see Appendix A) was sent to the parent or guardian of each potential subject. No subject was denied permission to participate in the study. Upon return of the letter granting parental or guardian permission, the cumulative record of each subject was examined in an effort to assess the similarity of all Groups on chronological age and IQ. Table 1 presents the relevant characteristics and achievement of each subject by Group. The groups where found to differ significantly only on the variable IQ with mean scores of 70, 73 and 63 for Groups I, II and III respectively, ($_{.05}F_{2,25} = 3.98$, $p<.05$)(see table 2). Post hoc analysis employing the Duncan Multiple Range Test revealed the mean of Group III ($\bar{x} = 63$) to be

Table 1. Subject Characteristics and Achievement Data by Group

GROUP I (n=8) (mainstreamed from regular classes)						GROUP II (n=6) (mainstreamed from self-contained classes)						GROUP III (n=14) (self-contained)					
Sex	CA	IQ	Sp	Ma	Sc	Sex	CA	IQ	Sp	Ma	Sc	Sex	CA	IQ	Sp	Ma	Sc
	118	76	2.0	3.0	0		142	64	3.1	3.9	16		128	64	2.2	3.1	8
	113	64	3.1	3.3	19		111	77	2.5	3.5	8		135	58	2.2	2.7	12
Male	122	72	2.6	3.1	18	Male	113	72	1.9	2.7	17		124	78	2.7	4.1	20
	147	53	2.2	3.9	15		104	74	1.1	2.7	11		124	68	1.9	3.5	12
	133	78	3.5	3.1	6		126	79	2.1	3.3	10	Male	142	54	2.1	2.7	7
	133	71	3.3	5.3	16	Female	140	76	1.7	3.5	2		136	65	2.6	2.9	13
Female	123	68	2.9	3.0	23								152	61	2.5	3.5	11
	142	78	2.8	4.3	7	$\bar{x}$	122	73	2.1	3.3	10.7		146	50	2.5	3.9	13
						S.D.	15.6	5.9	.69	.48	5.5		125	74	2.7	3.5	14
$\bar{x}$	128	70	2.8	3.7	12.4								152	62	3.5	3.5	13
S.D.	11.8	8.4	.45	.79	7.1								140	65	3.7	3.7	18
												FEMALE	150	65	0.1	--	0
													121	68	2.2	2.6	14
													133	59	2.7	2.9	12
												$\bar{x}$	136	6.3	2.6	3.3	12.7
												S.D.	10.9	73	.51	.52	3.4

LEGEND
CA - Chronological age in months.
IQ - INTELLIGENCE SCORE MEASURED by or equivalent to the WISC-R.
Sp - Spelling achievement score as measured by the WRAT.
Ma - Arithmetic achievement score.
SC - Self-Concept score as measured by the CSCS.

significantly different from the means of Group I ($\bar{x} = 70$) and Group II ($\bar{x} = 73$), but that the mean of Group I did not differ significantly from Group II.

The IQ measure of each subject was obtained with either the Wechsler Intelligence Scale for Children-Revised (WISC-R) or the Stanford Binet Intelligence (S-B) Test. Adjustments were made in scores obtained by the Stanford Binet Intelligence Test so that those scores would be equivalent to the scores obtained by the Wechsler Intelligence Scale for Children-Revised. Such adjustments were accomplished utilizing values specified in The Assessment of Children's Intelligence (Sattler, 1974, pg. 515).

Table 2. Analysis of Variance Summary Table, Intelligence Quotient By Group

Source	*df*	*SS*	*MS*	*F*
Between Groups	2	443.89	221.946	3.980*
Within Group (error)	26	1338.413	55.767	
Total	28	1782.304		

*$p < .05$

The groups did not differ on the variable chronological age ($_{.05}F_{2,26} = 2.73$ NS) (see Table 3), with mean scores of 129 months for Group I, 123 for Group III and

136 for Group III. All subjects were certified EMR by a certified or licensed school pyschologist.

Table 3. Analysis of Variance Summary Table, Chronological Age by Group.

Source	*df*	*SS*	*MS*	*F*
Between Groups	2	825.1488	412.5744	2.73(NS)
Error	26	3780.5655	151.2226	
Total	28	4605.7143		

Instrumentation

Two clusters (Intellectual and School Status and Physical Appearance and Attributes) from the Piers-Harris Children's Self-Concept Scale (Piers & Harris, 1969) and the spelling and arithmetic subtests of the Wide Range Achievement Test (WRAT) (Jastak & Jastak, 1965) were selected as the dependent variable measures for this study.

The Piers-Harris Children's Self-Concept Scale (CSCS) is a self-report instrument designed primarily for research purposes with children over a wide age range, and is designed to accomodate a third grade reading level. The scale requires children to respond "yes" or "no" to a variety of items reflecting concerns they might have about

themselves. Reliability data relative to the internal consistency and stability of the scale consistently yield high coefficients. Piers and Harris (1964), employing the Kuder-Richardson Formula 21 to test internal consistency, produced coeffieients ranging from .78 to .73. Attempting to assess stability, Piers and Harris (1964), using a four-month test/retest design, reported coefficients of .72, .71 and .72. Wing (1966), also using a test/retest design, reported a coefficient of .77 for two and four months periods.

The entire Piers-Harris Children's Self-Concept Scale consists of 80 items. Two considerations caused the author to reduce the number of items for this study. First, the author was concerned about the attention span of the EMR students, and second, the design of the scale easily facilitated the utilization of only the "factor clusters" which the author felt were pertinent to this study (see Appendix D for the complete cluster structures and factor loadings of the scale). In developing the instrument to be used in the study, only those items which loaded on no factors other than those in the factor clusters selected were utilized (see Appendices B and D).

The spelling and arithmetic subtests were selected from the WRAT also in an effort to minimize testing time and thereby (in the author's opinion) enhance student

attention. In addition, it was felt that since the reading subtest of the WRAT consists simply of word calling, the spelling and arithmetic subtests would provide more valid indice of academic performance.

Jastak and Jastak (1965), in explicating the statistical properties of the Wide Range Achievement Test (WRAT), reported split-half correlations resulting in reliability coefficients ranging from .92 to .98 for the spelling subtest and .85 to .92 for the arithmetic subtest. Similarly, DeLong (1962) administered the WRAT to a group of 77 EMR persons on five different occasions in a three month period. His findings indicated that the scores of 73 of the 77 persons varied less than 10 percent from administration to administration.

Procedure

Subjects were administered the WRAT and the CSCS in the third week of the ninth month (May) of the school year. All testing was conducted on the premises of the school attended by the subjects being tested, in small groups of not more than 5 students or individually. The tests were administered by a qualified school psychologist. The procedure utilized in the conduct of each test administration was standardized by the researcher as described below.

Subjects were seated around a table providing adequate work space for each and given a brief introduction by the examiner. The introduction consisted of: an explanation of the purpose of the testing; inquiry as to the health, comfort, and mood of each subject; assurance of their freedom from penalty of any kind as a result of either their participation or lack of participation in the study; assurance of their freedom not to participate; solicitation of their participation; and finally, encouragement to do their best. When all questions had been answered, the examiner placed on the table before each subject the CSCS and a pencil. Subjects were instructed not to begin until told to do so. The directions were read aloud by the examiner and the subjects were asked if they understood. When all subjects had indicated they understood, the examiner began to read aloud the statements from the CSCS. Each statement was slowly read twice. The progress of individual subjects was monitored by the examiner in order to moderate the speed of the proceedings and to ensure that the subjects understood the procedure and the specific content of each item. Upon completing the CSCS a short rest period of 10 minutes maximum was allowed. Following the rest period, the spelling and arithmetic subtests of the WRAT were introduced. On all occasions the spelling subtest was administered first, utilizing the standard administration procedures outlined in the WRAT manual.

Scoring

Scoring of the WRAT spelling and arithmetic subtests was conducted in accordance with the procedures prescribed in the WRAT manual (Jastak & Jastak, 1965). Two clusters of the CSCS, totalling 21 items were used as the self-concept measure in this study. The format of the CSCS required the subject to respond "yes" or "no" to each item. Items were constructed in such a manner that "yes" was indicative of positive self-concept in some instances while "no" was indicative of positive self-concept in other cases (see Appendix B). The self-concept score was obtained by deducting the number of negative self-concept responses from the number of positive self-concept responses. Relatively speaking, the higher the resultant value the more positive the subject's self-concept.

CHAPTER IV

DATA ANALYSIS AND RESULTS

Introduction

This study was a quasi-experimental (Campbell & Stanley, 1963), observational (Wildt & Ahtola, 1978) study utilizing three intact groups and conducted in the 1979-80 academic school year. The hypotheses tested were:

H_1: Among elementary EMR students, there is a relationship between self-concept and spelling achievement;

H_2: Among elementary EMR students, there is a relationship between self-concept and arithmetic achievement;

H_3: Among elementary EMR students, self-concept differs as a function of the student's academic placement status;

H_4: Among elementary EMR students, those placed in homogeneously grouped self-contained classrooms will report higher self-concept scores, as measured by the Piers-Harris Children's Self-Concept Scale, than those students placed in heterogeneously grouped regular classrooms;

H_5 Among EMR students, spelling and arithmetic achievement will differ as a function of the students' current and previous academic placement status; and

H_6: Among EMR students, those who are mainstreamed will differ in spelling and arithmetic achievement from those EMR students who are placed in homogeneously grouped self-contained classrooms.

Each hypothesis was tested at the .05 confidence level. The results of each hypothesis testing will be reported in numerical sequence.

Statistical Techniques and Rationale

The statistical techniques selected for hypothesis testing in this study were the Pearson Product Moment Correlation Coefficient (H_1 and H_2) and analysis of covariance (H_3, H_4, H_5, and H_6). The Pearson Product Moment Correlation coefficient is best considered to be a *ratio* which indicates the degree to which *variation* in one variable is *associated* with *variation* in another variable. (Hardyck & Petrinovich, 1969, pg. 207 [emphasis added]). That procedure was selected for testing hypotheses 1 and 2 because those hypotheses predicted an association or "relationship" between two variables of interest in the study.

There are several assumptions which underlie utilization of the Pearson Product Moment Correlation Coefficient which affect the accuracy of the procedure. One is linearity of regression. That is, if the regression or change in the variables being measured is not linear, the Pearson r will tend to underestimate the degree of association between the variables. Another factor is errors in measurement of the variables. Clearly inaccurate variable measurements result in erroneous estimation of the degree of association which may exist between them. A final factor affecting the magnitude of the Pearson correlation coefficient is the degree of heterogeneity of the sample with respect to the variables being correlated. If the variables being correlated (either one or both) are so homogeneous as to manifest very little variability among the scores, since Pearson r is an estimate of proportional change in one variable relative to proportional change in another variable, the resultant r under these conditions would be a meaningless and indeterminate value near zero. In other words, as the range of variable values becomes greater, other things being equal, the obtained Pearson r becomes greater in magnitude and accuracy in expressing the degree of association between the variables of interest.

Analysis of Covariance is a procedure utilized when one wishes to examine the relationships among at least two

quantitative variables and at least one categorical or qualitative variable, or when one wishes to examine the relationship between a quantitative dependent variable and a categorical independent variable when a second quantitative variable is present as a nuisance factor (Wildt & Ahtola, 1978). Analysis of Covariance then allows the examination of the relation(s) of interest while controlling for nuisance variables.

Analysis of covariance is generally used to:

1) Increase the precision of randomized experiments, by providing a statistical control for extraneous variables;

2) Statistically minimize the effect of pre-existing differences among groups which are assigned intact to various conditions; and

3) To remove differences in the dependent variable, in observational studies which are due to differences in extraneous variables.

The second general purpose of analysis of covariance provides the rationale for its selection for use in this study. The researcher had no control over the assignment of subjects to groups, thus they constituted intact groups, and a significant difference in IQ was found to exist initially among the groups (see Table 2, pg. 33).

Data Analysis

Hypothesis$_1$: Among elementary EMR students, there is a relationship between self-concept and spelling achievement. Table 4 provides the matrix of the Pearson Product Moment Correlations Coefficients of all variable correlations. The correlation coefficient presented in the data matrix representing the degree of association between self-concept and spelling achievement ($r = .40$) supports the stated hypothesis ($P = <.05$). Thus, hypothesis 1 is supported.

Table 4. Pearson Product Moment Correlation Coefficients

	CA	IQ	SPELL	MATH	SC
CA	--	-.52**	.39*	.37*	-.11
IQ		--	.00	.19	.21
SPELL			--	.44**	.40**
MATH				--	.23
SC					--

*p<.05
**p<.01

Hypothesis$_2$: Among EMR students, there is a relationship between self-concept and arithmetic achievement. The correlation coefficient presented in the correlational data matrix (see Table 4) representing the degree of association between self-concept and arithmetic achievement

(r = .23,NS) does not support the stated hypothesis. Therefore, hypothesis 2 is rejected.

Hypothesis$_3$: Among elementary EMR students, self-concept differs as a function of the students academic placement status. This hypothesis was tested with analysis of covariance with the mean self-concept scores of the three groups (Group I--mainstreamed from regular classes; Group II--mainstreamed from self-contained classes; and Group III--self-contained) as the dependent variables and their placement status or group as the independent variable and IQ as the covariate. The variable IQ was used as the covariate in all analysis of covariance procedures testing each of the remaining hypotheses based on the rationale provided for the selection of analysis of covariance as the hypothesis testing technique as discussed in the Statistical Techniques and Rationale section of this chapter.

Table 5 represents the summary data for the analysis of covariance conducted to test hypothesis 3. The summary data ($_{.05}F_{2,24} = .322$, $P > .05$) indicates no difference between the means for Group I (12.38), Group II (10.67) and Group III (12.64). Hypothesis 3 was rejected.

Table 5. Analysis of Covariance Summary Table for Self-Concept by Group with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Groups	2	17.006	8.503	0.322 (NS)
Residual (error)	24	633.663	24.794	
Total	27	669.426	26.403	

Hypothesis$_4$: Among elementary EMR students, those students placed in homogeneously grouped self-contained classrooms will manifest higher self-concept scores, as measured by the Piers-Harris Children's Self-Concept Scale, than those students placed in heterogeneously grouped regular classrooms. This hypothesis, being very similar in nature to H_3, required the combination of Group I and II with analysis of covariance serving as the agent of comparison of the combined groups (n=14) to Group III (n=14).

The data presented in Table 6 ($.05F_{1,25} = .274$, $P<.05$) indicates no significant difference between the mean self-concept scores for the mainstreamed group (11.64) and the mean self-concept scores for the self-contained group (12.64). Thus hypothesis 4 is rejected.

Table 6. Analysis of Covariance Summary Table for Self-Concept of Mainstreamed Students by Self-Concept of Self-Contained Students with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Group	1	7.0	7.0	0.274 (NS)
Residual (error)	25	639.045	24.794	
Total	27	669.426	25.562	

Hypothesis$_5$: Among EMR students, spelling and arithmetic achievement will differ as a function of the students' academic placement status. This hypothesis required the inclusion of three groups representing the three academic placement conditions (see Figure 1, pg. 28). Table 7 presents the analysis of covariance summary data for spelling ($_{.05}F_{2,24} = 3.061$, $P > .05$) indicating no significant difference between the means for Group I (2.8), Group II (2.07) and Group III (2.6).

Table 7. Analysis of Covariance Summary Table for Spelling Achievement by Group with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Groups	2	1.935	.968	3.061 (NS)
Residual	24	7.586	.316	
Error	27	9.549	.354	

Table 8 presents the summary data for arithmetic ($_{.05}F_{2,24} = 1.386$, $P > .05$), again demonstrating no significant difference between the group means of 3.74, 3.27 and 3.35 for Groups I, II and III respectively. These data fail to support hypothesis 5, thus it is rejected.

Table 8. Analysis of Covariance Summary Table for Arithmetic by Group with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Groups	2	1.040	.520	1.386 (NS)
Residual (error)	24	9.003	.373	
Total	27	10.064	.375	

Hypothesis$_6$: Among EMR students, those who are mainstreamed into heterogeneously grouped regular classes will differ in spelling and arithmetic achievement from those EMR students who are in homogeneously grouped self-contained classrooms. As with H_4, this hypothesis required that the analysis be conducted on only two groups--mainstreamed and self-contained. Table 9 presents the summary data for spelling analysis ($_{.05}F_{1,25} = .242$, $p > .05$), indicating no difference between the means of 2.49 and 2.60 for Group I and II, and Table 10 provides similar results for arithmetic ($_{.05}F_{1,25} = .715$, $P > .05$), with no difference between the mean scores of 3.54 for Group I and 3.33 for Group II.

Table 9. Analysis of Covariance Summary Table for Spelling Achievement of Mainstreamed Students by Spelling of Self-Contained Students with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Groups	1	.091	.091	0.242 (NS)
Residual (error)	25	9.450	.354	
Total	27	9.549	.378	

Table 10. Analysis of Covariance Summary Table for Arithmetic Achievement of Mainstreamed Students by Arithmetic Achievement of Self-Contained Students with IQ.

Source	*df*	*SS'*	*MS'*	*F*
Between Groups	1	.280	.280	0.715 (NS)
Residual (error)	25	9.784	.373	
Total	27	10.064	.391	

Summary

This chapter has detailed six hypotheses that were to be tested; identified, described and provided the rationale for the statistical techniques selected to test those hypotheses; provided a rationale to support the selection of the statistical technique for each

hypothesis; and finally, this chapter provided a description of the analysis procedure and the results of those analyses for each hypothesis. In general, of the six hypotheses tested, only one, Hypothesis 3 (among elementary EMR students, there is a relationship between self-concept and spelling achievement) was supported. All hypotheses concerning self-concept and placement status and achievement and placement status were rejected.

CHAPTER V

DISCUSSION

Summary

The purpose of this study was to assess the effects of class placement on the self-concepts, spelling and arithmetic achievement of EMR students under mainstreamed and self-contained academic placement conditions. A mainstreamed placement condition consists of the EMR student being integrated into a heterogeneously grouped regular classroom in which the student receives additional academic assistance from a "Resource Room" for a portion of the school day. The self-contained academic placement consists of the EMR student being placed in a homogeneously grouped classroom consisting entirely of students whose cognitive and academic abilities are deemed similar to his or her own, who are certified EMR and who remain in that setting for the entire school day.

Subjects were administered the spelling and arithmetic subtest of the Wide Range Achievement Test and a 21 item self-concept scale consisting of items from two clusters of the Piers-Harris Children's Self-Concept Scale. The results of these instruments were subjected to statistical analysis using correlational techniques and analysis of covariance.

Six hypotheses were developed and tested for statistical significance. One hypothesis was supported, five hypotheses were not supported. In general, the findings of this study were: 1) academic placement status had no significant effect on the spelling and arithmetic achievement or self-concepts of the EMR students in this study; 2) there was a significant positive relationship between the variables' self-concept and spelling achievement among EMR students in this study; 3) there was no significant relationship between self-concept and arithmetic achievement among the EMR students in this study. An additional and unanticipated finding of the study was that there was an initial difference in IQ's between the groups representing the three placement conditions.

Relationship of Findings to Other Research

Self-Concept and Achievement. Conceptually, those hypotheses posited in this study concerning self-concept were based upon constructs similar in nature to those employed in the Strang et al. study (see pg. 14). Generally stated, those constructs assert that self-concept develops and changes based on a process of comparisions of oneself to one's peers (Combs & Syngg, 1959; Festinger, 1954; Jersild, 1960; Rogers, 1959). To that extent then, the self-concept of a child is dependent upon the experiences and reference groups to which the child has been exposed (Dinkmeyer, 1965; Festinger, 1954;

Hyman & Singer, 1971; Rogers, 1959). In essence, the child acquires a self-concept by a process of self comparison to those with whom she/he is in actual association in sustained social relationships (Pettigrew, 1971).

Additionally, Bledsoe (1962), Chickering (1958) and Lumpkin (1959) have demonstrated a significant positive relationship between self-concept and achievement. This evidence, combined with Social Comparison Theory (Festinger, 1954), Social Evaluation Theory (Pettigrew, 1971), and Multiple Reference Group Theory (Hyman & Singer, 1971), relative to self-concept formation would seem to suggest the following occurrences: 1) the EMR student will suffer decrements in reported self-concept when exposed to a referent group of more competent others; and 2) subsequent to self-concept decrements, the EMR student will manifest decreased achievement rates.

Those suggested outcomes were not supported by this study. Placement condition, which in this case might reflect the EMR student's contact and interaction with similar or discrepant others, did not appear to have a differential effect on the self-concepts of the EMR students. Additionally, there were no decrements in academic achievement on the part of EMR students when placed with groups of discrepant others (mainstreamed), as would be predicted by the theoretical conceptualization of

self-concept referred to previously. The results of this study, though based on the same theoretical constructs, are contrary to those of Strang et al. In their two experiments they found positive evidence of self-concept decreases among EMR students placed in mainstreamed classes. A major procedural differences between the two studies might account for the different findings. The Strang et al. study employed an experimental design with random assignment and active subject manipulation. This study utilized intact groups with no experimenter controls.

Although it appears rather self-evident that the procedural issue raised above might well have affected the results of the two studies, beyond this lies a range of possible theoretical questions. The most salient of those questions pertains to the feasibility of the theoretical construct itself. Is it realistic to view self-concept as developing only as a function of comparing oneself to a reference group? An even more pertinent question might be to consider whether or not it is reasonable to apply that theoretical construct of self-concept development to EMR students. The question that follows logically is, if not appropriate for EMR students, what then are reasonable theoretical constructs of self-concept development for EMR students?

Alternative explanations of self-concept development have been addressed in the literature. For example, Gardner (1958), Kingelheim (1958) and Zeaman and House (1963), report that EMR children are more likely to avoid a difficult task. They seldom try harder to master a difficult task, choosing instead to withdraw from it. Additionally, Zeaman and House (1963) report that EMR students apparently set lower goals for themselves than their measured or apparent abilities would indicate. These studies suggest that the development of self-concept may be the function of such external factors as success and failure. With success and failure as possible developmental criteria and EMR students typically experiencing higher failure rates (Zeaman & House, 1963), one would then expect self-concept and failure to become almost cyclical among EMR children--failure at a task or avoidance of a task produces poor self-image; poor self-image in turn reduces the likelihood of the child attempting tasks and/or increases the likelihood of failure when a task is attempted.

Although the preceding studies provide an alternative explanation for self-concept development, especially among EMR children, they are in conflict with the Ringness (1961) study cited previously in the literature review. Among the findings Ringness (1961) presented was that low intelligence children in special classes

expressed the lowest self-concepts and that EMR students who are mainstreamed expressed the second highest self-concepts, when compared to average and high intelligence regular students. In the present study, there was no difference in the self-concept scores of the self-contained and mainstreamed groups. Ringness' findings also conflict with those of Zeaman and House (1963). The Zeaman and House (1963) study would seem to lead directly to the conclusion that EMR students who are mainstreamed would be under achievers both in *expression* and *action*. Ringness (1961), on the other hand, suggests that mainstreamed EMR students would be *"expressively"* over-achievers. *That is, they would tend to verbally appear as overachievers.*

A resolution of the apparent conflict between this study and the Ringness study might lie in the fact that Ringness' study used a special class in a regular school, whereas this study used special classes in a special school.

While it has long been established that there is a positive relationship between self-concept and achievement among normally developing students (Bledsoe & Garrison, 1962; Bodwin, 1960; Chickering, 1985; Lumpkin, 1959; McMillan, 1965), no such relationship has been demonstrated for EMR students. Therefore, one might

wonder why the present study did not yield similar results.

Some insight into the question was gained by examining items from the self-concept instrument used in this study. Many of the questions designed and purported to measure "self-concept" appeared to be more associated with school achievement than any other notion of self. If this is the case, the self-concept and achievement instruments may have measured the same factor--achievement. In reviewing the 21 item self-concept scale used in this study, it was noted that 13 (62 percent) of the items could easily be identified as related to school achievement. With such data one would expect a statistical association between achievement and self-concept, as was the case with self-concept and spelling achievement in this study, but not with self-concept and arithmetic.

A probable explanation for why the association did not occur with self-concept and arithmetic achievement is that spelling is a curriculum-wide activity which offers many opportunities for practice while arithmetic is very specific and generally limited to those periods specifically set aside for its study and practice.

Self-Concept and Class Placement. Among the placement studies, the results are more mixed. Drews (1962) and Goldberg, Passow and Justman (1961) reported that

homogeneously grouped low ability (EMR) students expressed higher self-concepts than heterogeneously grouped low ability (EMR) students. Mann (1962) and Borg (1966), however reported that homogeneously grouped low ability (EMR) students expressed lower self-concepts.

The results of this study are more consistent with those of Meyerwitz (1962) who found no difference in the reported self-concepts of "slow learners" (EMR students) regardless of homogeneous or heterogeneous grouping. In general, the results obtained in this study seem to support the "efficacy" studies which generally report no difference in self-concept or academic achievement of EMR students in special classes or regular classes, however, it must be added that this study suffers from the same methodological flaws attributed to the efficacy studies: those primarily being the lack of randomization and the theoretical controversy about self-concept measurement.

Placement and Social Adjustment. With the general finding that neither self-contained nor mainstreamed classrooms seem to offer a particular academic benefit to the EMR student, social benefits of mainstreamed classes are sometimes offered as justification for there existence (Dunn, 1963; Hobbs, 1975). As with the efficacy and placement studies, contradictory findings have been presented for EMR students in mainstreamed versus

self-contained classes in studies of social adjustment. Several studies (Baldwin, 1958; Carriker, 1957; Elenbogen, 1957; Goodman, Gottlieb & Harrison, 1972; Gottlieb & Budoff, 1973; Kern & Pfaeffle, 1962; Porter & Milazzo, 1958; Reese-Dukes & Stokes, 1978; Thurstone, 1959; Walker, 1974) have suggested that EMR students are typically isolated and rejected in regular classrooms and have made greater gains in social adjustment in self-contained or special classes. Other studies, however, have challenged those results by suggesting that there was no difference in the sociometric dimension of the regular and self-contained settings (Flynn, 1978; Guerin & Szatlocky, 1974; Iano, Ayers, Heller, McGettigan & Walker, 1974) or that EMR students showed greater gains in social adjustment when placed in integrated (mainstreamed) settings (Budoff & Gottlieb, 1976; Gambel, Gottlieb & Harrison, 1974; Gottlieb, Gambel & Budoff, 1975).

Having conceptually defined self-concept development and change in terms of Phenomenological Theory (Combs & Snygg, 1959) Social Learning Theory (Festinger, 1954), Social Evaluation Theory (Pettigrew, 1971) and Rogers' "organismic valuing process" (1959), and since the students in this study had been in their current placement statuses for one full school year, the variable self-concept should provide some insight into their level or degree of social adjustment to their academic placement

condition. For this investigation, the only students of concern were those who had remained in the self-contained class (n=14) and those who had been mainstreamed from the self-contained class to regular classrooms with resource support at the beginning of the school year (n=6). The data in this study showed a mean of 12.6 and a standard deviation of 3.4 for the self-contained group and a mean of 10.6 with a standard deviation of 5.5 for the group mainstreamed from the self-contained setting. A subsequent t-test revealed no significant differences between those means ($_{.05}t_{1,8} = 2.60$, $P = .15$ NS), however, the standard deviation scores would seem to indicate a greater degree of variability within the mainstreamed group. This observation suggests the possibility that among the students in this study, social adjustment was more consistent among the self-contained students. In other words, the self-contained group seemed more "socially" homogeneous. This observation is consistent with the sociometric studies (Bodwin, 1958; Carriker, 1957; Reese-Dukes & Stokes, 1978; Thurstone, 1959) which have reported greater overall social adjustment among groups of EMR students in self-contained or special classes.

Intelligence. Almost without exception the literature has consistently demonstrated a relation between IQ and academic achievement (Guskin & Spicker, 1968; Hobbs, 1975; Mann, 1960) however, the results of this study

failed to reveal significant relationships between IQ and spelling and arithmetic achievement. Several possible explanations for this occurrence may be presented. The absence of a significant association between IQ and achievement could possibly suggest that among EMR students with IQ's of 70 and below, unnecessary distinctions are being made between mentally retarded students. This is potentially an important finding because the assumption underlying the entire classification and programmatic differentiation system among MR students in education is that the value or factor labelled "IQ" in fact predicts some obtainable level of achievement. Based on that assumption, curriculum programs that are substantively different are created and maintained for MR students based on the differentiation among them dictated by their IQ's. By implication, if there is no association between IQ and achievement, there would be no need for different curriculum programs for MR students as currently occurs since classification is based on IQ. Otherwise, however, curriculum differentiation might be necessary based on academic achievement.

A second explanation might suggest that those EMR students in this study with higher IQ's regardless of placement status were not being educated to their potential. Indeed, if we review Table 1 (pg. 32), we find that there are several subjects in this study with IQ's

well above 70 yet they generally appear to achieve at no greater level than other students certified EMR. This might suggest that those students are not being pushed to achieve to their maximum potential. If on the other hand, they are achieving at their maximum potential, then their "IQ" value is meaningless.

The initial difference found between the groups (see Table 2, pg. 33) presents an all together different problem, however. The most plausible explanation for that initial difference in groups (Group I, $\bar{x}$ = 70; Group II, $\bar{x}$ = 73; Group III, $\bar{x}$ = 63) probably rests in the selection process engaged in by the staff of the CDC. Although they did not use IQ per se in their stated selection procedure, the criteria they did use (students who were cognitively and behaviorally most likely to succeed in the regular classroom) did inadvertently identify and select those students with the highest IQ's. This would explain why the post hoc analysis conducted following the ANOVA on IQ (see pg. 33) which found Group III ($\bar{x}$ = 63) to be significantly different from both Groups I ($\bar{x}$ = 70) and II ($\bar{x}$ = 73), but no significant difference between Group I ($\bar{x}$ = 70) and Group II ($\bar{x}$ = 73). The question of importance concerns the process by which students who do not appear different--Group I and Group II--became placed in different academic placement settings.

One would expect that the student whose educational needs are best satisfied in a self-contained setting would demographically and achievement-wise, look different from the student whose needs are best satisfied in a mainstreamed classroom. The data in this study did not support such an expectation. It seems possible that other factors such as, socioeconomic status, the desire to remove a particular student from a classroom, race etc., mitigate the selection process which differentiates between those students mainstreamed and those placed in self-contained classrooms.

Positive Aspects of Study

The most clearly definable positive aspect of this study, even though most hypotheses were rejected, is that it represents one of the final remaining opportunities to study EMR students in self-contained academic settings. As has been previously stated, mainstreaming has been mandated by federal legislation. Often that legislation has been interpreted as the wholesale integration of EMR students into regular classrooms, regardless of individual student needs. Another benefit of this study, as compared to similar studies attempted in the past, is the fact that only EMR students were used as subjects. Frequently in past studies EMR students have been compared with non-EMR students (usually to the detriment of the EMR student) and often the major focus of the study concerned the social

adjustment of the EMR student (Dunn, 1963; Robinson & Robinson, 1965). Another noteworthy contribution of this study was its attempt to focus directly on the relationship of class placement to self-concept and academic achievement among EMR students.

The primary implication generated by this study is the absence of difference in academic achievement resulting from placement status. This implication grows more important with more and more school systems being affected by budgetary constraints. If, in fact, the placement status of EMR students makes no difference in the self-concepts and academic achievement of EMR students, many school systems may be able to reduce their present costs per student in special education programs by mainstreaming; although resource rooms still involve 1 hour per day extra service.

A second major implication, and one which must be further investigated, is the absence of a significant relationship between IQ and academic achievement among this group of students. Any finding which contradicts or stands in contrast to a sizeable body of literature, as does this one, must be carefully considered. It cannot be simply dismissed as a fluke or statistical artifact unless such can be demonstrated conclusively.

The final implication to be addressed involves the procedure and selection criteria utilized in determing the academic placement of EMR students. These data strongly suggest that criteria other than those traditionally considered appropriate are utilized in the process. Briefly stated, the traditional diagnostic model which culminates in the placement of a student in special education minimally consists of: 1) some notice of skill deficiency or problematic behavior by a parent or teacher; 2) an evaluation procedure usually consisting of some kind of achievement or academic skill measure and an IQ test, at minimum; and 3) a team-based decision which utilizes all the information gathered about that student.

In this model the decision to be made is purely an academic one which addresses the individual needs of that student. Even so, however, one would expect that a student whose academic needs were best satisfied in a self-contained setting would, demographically and achievement-wise, look different from one whose needs were best satisfied in a mainstreamed classroom. The data in this study did not support such an expectation. It appears likely, that other factors, such as, socioeconomic status, race, behavior, or other such factors, could mitigate the selection process which differentiates between those students mainstreamed and those students place in self-contained classrooms. The implication of the above

described possibility would seem to dictate thorough scrutiny of the evaluation procedure and its components to ensure that inappropriate factors (such as those mentioned) do not enter the academic placement decision-making process.

Limitations of Study

Several factors limit the generalizability and effectiveness of this study. First and foremost among the limitations is the sample size. Clearly the design of this study and the statistical procedures employed were affected by the smallness of the sample. It is believed that in many instances the absence of statistical significance may be attributable to the sample size.

A second limitation, equally as important as the sample size, was the lack of randomization in assignment of subjects to groups. As suggested by Campbell and Stanley (1963) and Wildt and Ahtola (1978), analysis of covariance was utilized to test the major research hypotheses in an effort to mediate the lack of random assignment of subjects to groups.

A central element of this study was the measurement of self-concept. Therein lies the third major limitation of this study--data collection relied upon the utilization of self-report instruments. Self-report instruments have had and continue to share a common inherent inexactness--

their validity is based on the assumption that the subject delivers an honest, sincere and knowledgeable response.

Recommendations for Future Research

Interestingly, of the five hypotheses rejected, the only other to approach the assigned level of statistical confidence (.05) was the hypothesis suggesting a difference in spelling achievement based on academic placement status (see Table 6, $.05F_{2,24} = 3.061$, $P = .06$). This occurence, though not statistically significant, certainly seems to strengthen the likelihood of some type of relationship existing between class placement, self-concept and spelling achievement. This possibility should be thoroughly investigated. Additionally, the following three suggestions for future research efforts are offered:

1. Efforts must be directed toward developing means of assessing "self-concept," as a hypothetical construct, that do not rely solely upon self-report.

2. Future studies attempting to assess the effect of class placement on the academic achievement of EMR students should be conducted under conditions that allow the full benefits of the "state of the science." That is conditions must allow for the random assignment of subjects and other appropriate controls which validate the

statistical techniques employed in data analysis.

3. The finding of no significant relationship between IQ and achievement among EMR students should be thoroughly investigated.

Conclusions and Contributions

This study attempted to assess the effects of academic classroom assignment on the self-concepts and spelling and arithmetic achievement of EMR students.

Twenty-eight students were used representing two primary academic placement conditions, mainstreamed and self-contained. The mainstreamed group was further subdivided into those students entering special education (resource support) from a regular classroom and those entering from a self-contained classroom. It was generally hypothesized that those students in self-contained classrooms would report higher self-concepts as measured by the Piers-Harris Children's Self-Concept Scale, and spelling and arithmetic achievement, as measured by the Wide Range Achievement Test. Six specific hypotheses were generated. One was supported, the remaining 5 were rejected. The supported hypothesis revealed a significant positive relationship between self-concept and spelling achievement.

This study specificaly contributes to the existing body of literature in two ways. First, it offered an opportunity to assess the progress of EMR students being mainstreamed from special schools, and second, it offered an opporunity to investigate mainstreaming from two different sources--special school (self-contained classroom) and regular classroom.

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APPENDICES

APPENDIX A

LETTER OF PARENTAL CONSENT

Roane County
Department of Education

Jack L. Staff, Superintendent
Telephone (615) 376-5592

P. O. Box 690 • Kingston, Tennessee 37763

January 23, 1980

Dear Parent:

Mr. Judson Reese-Dukes, from the School of Education, at the University of Tennessee, is conducting a study in our system concerning our Special Education Program. Mr. Reese-Dukes is trying to discover if there is a difference in the amount of learning over one school year between children who are mainstreamed and those who are in self-contained classes.

Your child has been selected as a potential participant in Mr. Reese-Dukes' study. Those children, who participate in the study, will be asked to complete two short tests. One test asks the child about things he or she likes or dislikes, and the other is a test of the child's arithmetic and reading skill. The scores the child receives, on these tests, will not affect the school grades the child receives in any way.

Additionally, the performance of your child, while a participant in this study, will be handled in the strictest confidence, and if you should change your mind and wish to withdraw your child from the study, you may do so at any time without penalty to your child.

The kind of research, that Mr. Reese-Dukes is conducting, is extremely important if we are to continue providing high quality services to our students. Please give your consent by signing the form below and returning it to your child's teacher.

Sincerely,

Jack L. Staff, Superintendent
Roane County Schools

JLS:me

I hereby give my permission for my child _____
Child's name
to participate in the study described above.

_____ _____
Signature of parent or guardian Date

APPENDIX B

PIERS-HARRIS CHILDREN'S SELF-CONCEPT SCALE SUBTESTS

APPENDIX B

Here is a set of statements. Some of them are true of you and so you will circle the yes. Some are not true of you and so you will circle the no. Answer every question even if some are hard to decide, but do not circle both yes and no. Rember, circle the yes if the statement is generally like you, or circle no if the statement is generally not like you. There are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

1.	My classmates make fun of me	yes	no
2.	I am smart	yes	no
3.	I get nervous when the teacher calls on me	yes	no
4.	I get worried when we have tests in school	yes	no
5.	I am well behaved in school	yes	no
6.	I am good in my school work	yes	no
7.	I am slow in finishing my school work	yes	no
8.	I am an important member of my class	yes	no
9.	I have pretty eyes	yes	no
10.	I can give a good report in front of the class	yes	no
11.	In school I am a dreamer	yes	no
12.	I have nice hair	yes	no
13.	I often volunteer in school	yes	no
14.	I hate school	yes	no
15.	I am among the last to be chosen for games	yes	no
16.	My classmates in school think I have good ideas	yes	no
17.	I have a pleasant face	yes	no
18.	I am a leader in games and sports	yes	no

19. I forget what I learn ..... yes no

20. I am a good reader ..... yes no

21. I am different from other people ..... yes no

APPENDIX C

RAW DATA

APPENDIX C

DEMOGRAPHIC DATA AND RAW SCORES

FOR ALL SUBJECTS

IQ	CA	SPELL	MATH	SC
118	76	2.0	3.0	0
123	68	2.9	3.0	23
113	64	3.1	3.3	19
122	72	2.6	3.1	18
147	53	2.2	3.9	15
133	78	3.5	3.1	6
142	78	2.8	4.3	7
133	71	3.3	5.3	16
142	64	3.1	3.9	16
140	76	1.7	3.5	2
111	77	2.5	3.5	8
113	72	1.9	2.7	17
104	74	1.1	2.7	11
126	79	2.1	3.3	10
128	64	2.2	3.1	8
152	62	3.5	3.5	13
135	58	2.2	2.7	12
140	65	3.7	3.7	18
124	78	2.7	4.1	20
124	68	1.9	3.5	12
142	54	2.1	2.7	7
150	65	0.1	.	0
136	65	2.6	2.9	13
121	68	2.2	2.6	14
152	61	2.5	3.5	11
146	50	2.5	3.9	13
133	59	2.7	2.9	12
125	74	2.7	3.5	14

APPENDIX D

FACTOR STRUCTURE AND LOADINGS OF PIERS-HARRIS CHILDRENS' SELF-CONCEPT SCALE

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FACTOR STRUCTURE AND LOADINGS OF PIERS-HARRIS CHILDRENS' SELF-CONCEPT SCALE

Factor 1
Behavior

No.		Loading*	
22	I do many bad things	.66	
35	I am obedient at home	-.64	
25	I behave badly at home	.62	
34	I often get into trouble	.60	
14	I cause trouble to my family	.55	
78	I think bad thoughts	.54	
76	I can be trusted	-.53	
80	I am a good person	-.50	
12	I am well behaved in school	-.50	
48	I am often mean to other people	.48	
31	In school I am a dreamer	.45	
56	I get into a lot of fights	.42	
64	I am clumsy	.38	
67	I am easy to get along with	-.37	
13	It is usually my fault when something goes wrong	.36	
59	My family is disappointed in me	.35	(VI)
32	I pick on my brother(s) and sister(s)	.31	
4	I am often sad	.30	

Factor II
Intellectual and School Status

21	I am good in my schoolwork	-.66	
5	I am smart	-.63	
53	I am dumb about most things	.56	
70	I am a good reader	-.55	
66	I forget what I learn	.53	
26	I am slow in finishing my schoolwork	.51	
30	I can give a good report in front of the class	-.48	
42	I often volunteer in school	-.46	
11	I am unpopular	.43	(V)

*Parentheses indicate that item loads on one or more other factors

No.	Item	Loading*
49	My classmates in school think I have good ideas	-.43 (III)(V)
16	I have good ideas	-.40
7	I get nervous when the teacher calls on me	.39 (IV)
27	I am an important member of my class	-.39 (III)
33	My friends like my ideas	-.38 (V)
17	I am an important member of my family	-.32
9	When I grow up I will be an important person	-.31
12	I am well behaved in school	-.30 (I)
57	I am popular with boys	-.30 (III) (V)

Factor III
Physical Appearance and Attributes
(related also to status and popularity)

54	I am good looking	-.74
60	I have a pleasant face	-.61
41	I have nice hair	-.60
73	I have a good figure	-.56
29	I have pretty eyes	-.52
15	I am strong	-.41
63	I am a leader in games and sports	-.40
8	My looks bother me	.40 (IV) (VI)
27	I am an important member of my class	-.36 (II)
49	My classmates in school think I have good ideas	-.35 (II) (V)
55	I have lots of pep	-.31 (IV)
57	I am popular with boys	-.33 (II) (V)

Factor IV
Anxiety

79	I cry easily	-.57
37	I worry a lot	-.57
74	I am often afraid	-.55
7	I get nervous when the teacher calls on me	-.54
A	Male sex	.51
28	I am nervous	-.49
10	I get worried when we have tests in school	-.47

*Parentheses indicate that item loads on one or more other factors

No.	Item	Loading*	
40	I feel left out of things	-.38	(V)
6	I am shy	-.35	
8	My looks bother me	-.33	(III) (VI)
20	I give up easily	-.33	
44	I sleep well at night	.30	
55	I have lots of pep	.30	(III)

Factor V
Popularity

58	People pick on me	-.62	
46	I am among the last to be chosen for games	-.61	
3	It is hard for me to make friends	-.55	
51	I have many friends	.56	
40	I feel left out of things	-.49	(IV)
11	I am unpopular	-.47	(II)
1	My classmates make fun of me	-.40	
49	My classmates in school think I have good ideas	.40	
33	My friends like my ideas	.37	(II)
77	I am different from other people	-.35	
57	I am popular with boys	.34	(II)
69	I am popular with girls	.32	

Factor VI
Happiness and Satisfaction

2	I am a happy person	.65	
50	I am unhappy	-.62	
39	I like being the way I am	.60	
43	I wish I were different	-.57	
52	I am cheerful	.42	
59	My family is disappointed in me	-.39	(I)
8	My looks bother me	-.35	(III) (IV)
38	My parents expect too much of me	-.33	
36	I am lucky	.30	

*Parentheses indicate that item loads on one or more other factors

VITA

Judson Leon Reese-Dukes was born in Wananish, North Carolina on June 15, 1945. He was a member of a military family and has travelled extensively. He graduated from St. Emma Military Academy, Powhatan, Virginia, in June 1963.

After completing seven years as a pilot in the United States Army, Captain Reese-Dukes was honorably discharged in November 1971. In January 1972 he entered Austin Peay State University where he received the Bachelor of Science degree in August 1974.

Mr. Reese-Dukes then worked in Clarksville, Tennessee and Chattanooga, Tennessee as an alcohol and other drug counselor before returning to graduate school at Austin Peay State University. Upon completing the Master of Arts degree in June 1977, Mr. Reese-Dukes joined the faculty of the Psychology Department at Middle Tennessee State University where he taught and advised undergraduate Psychology students. Upon completing the Doctor of Education degree, Dr. Reese-Dukes will return to the faculty of Middle Tennessee State University and resume his duties there.